to deduct said fees from Arnold, White & Durkee Deposit Acct. No. 01-2508/ARCD:010/NAK.

AMENDMENTS

In the Claims:

Please cancel without prejudice or disclaimer claim 7.

REMARKS

I. Status of the Claims

Claim 7 has been canceled without prejudice or disclaimer. Claims 1-3, 5, 6 and 8-35 are presently in the case and are presented for reconsideration. A copy of the pending claims is attached hereto as Exhibit A.

II. Rejection of Claim 7 Under 35 U.S.C. § 112, Second Paragraph.

The Examiner has rejected claim 7 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Although applicant respectfully traverses this rejection, the cancellation of claim 7 renders the rejection moot.

III. Rejection of Claims 1-3, 5-10, 12-21, 23, 24, 26, 28, 31-33 and 35 Under 35 U.S.C. § 102

The Action has rejected claims 1-3, 5-10, 12-21, 23, 24, 26, 28, 31-33 and 35 under 35 U.S.C. § 102(b) as being anticipated by Tkachuk *et al.* (Science 250: 559-562, October 26, 1990) ("Tkachuk"). Applicant initially notes that the instant application was filed on Monday,

October 28, 1991. As October 26, 1991 was a Saturday and the instant application was filed on the next succeeding business day, the publication of Tkachuk is not a statutory bar under 35 U.S.C. §102(b). MPEP §706.02(a). Applicant's comments are therefore addressed to the publication of Tkachuk as a §102(a) reference.

Applicant respectfully traverses that the claims of the instant application may properly be rejected under §102(a) over Tkachuk. It is established patent law that an inventor's own prior work will not anticipate her later invention, absent a statutory bar. *E.g., In re Katz*, 215 USPQ 14 (CCPA 1982). The pending claims of the instant application are drawn to compositions and kits comprising probes for detecting a chromosomal aberration involving the BCR and ABL genes. The clear evidence of record shows that such probes were solely the invention of Dr. Westbrook. (See Response to Office Action mailed June 12, 1996 at pp. 9-11; Declaration under Rule 131 filed on December 19, 1996.)

Filed herewith is a new declaration under 37 C.F.R. §1.131 that further clarifies that these probes were solely the invention of Dr. Westbrook. The declaration establishes that the invention of claims 1-3 and 5-35 was made and tested in the United States prior to October 26, 1990, and therefore prior to the publication of Tkachuk. The notebook pages attached to the declaration demonstrate that Dr. Westbrook: a) Possessed and used the probes c-Hu-ABL, PEM12 and MSB-1 in *in situ* hybridization experiments for detection of chromosomal aberrations in leukemic cell lines and blood cells from patients with leukemia. b) Identified doublets in the chromosomal DNA of these cells, using distinguishably labeled probes specific for the c-H-*abl* and *bcr* genes. c) Possessed and used a detailed protocol for detection of the c-H-*abl/bcr* fusion gene, using distinguishably labeled probes specific for the c-H-*abl* and *bcr* genes. All of these studies

were carried out in the United States prior to October 26, 1990 and therefore prior to the publication of Tkachuk.

This evidence shows that the invention of claims 1-3, 5, 6 and 8-35 was completed in this country before the date of the Tkachuk publication. Therefore, reconsideration and withdrawal of the rejection is respectfully requested.

IV. Rejection of Claims 11, 22, 25, 27 and 34 Under 35 U.S.C. § 103

The Action incorrectly states that the instant application currently names joint inventors. Applicant notes that Dr. Westbrook is the sole named inventor.

The Action has rejected claims 11, 22, 25, 27 and 34 under 35 U.S.C. §103(a) as being unpatentable over Tkachuk *et al.* in view of Rubin *et al.* (1988) ("Rubin") and further in view of Stratagene catalog (1988). The declaration under Rule 131 removes Tkachuk as a prior art reference. Applicant respectfully submits that the remaining cited references do not make obvious the claims of the instant application. Reconsideration and withdrawal of the rejection are requested.

V. Summary and Conclusion

In light of the foregoing comments, Applicant submits that all pending claims are in condition for allowance and solicits an early indication to that effect. Should Examiner Fredman feel that further discussion of any of the issues is merited, he is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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Dated: September 1, 1998

EXHIBIT A

EXHIBIT A: Pending Claims in Application Serial No. 07/784,222

The claims are listed below as they would appear if the requested amendments are entered in the case.

1. (Three times amended) A composition comprising at least two probes, each labeled with a distinguishable label, for detecting a chromosomal aberration involving the BCR and ABL genes, said chromosomal aberration having an ABL gene side and a BCR gene side, wherein one of said probes hybridizes to the ABL gene side of said chromosomal aberration and the other of said probes hybridizes to the BCR gene side of said chromosomal aberration, wherein said probes hybridize to an aberrant chromosome.

2. (Amended) A composition comprising at least two probes for detecting a chromosomal aberration, each probe labeled with a distinguishable label, wherein one of said probes hybridizes to a part of the ABL gene on one side of said chromosomal aberration and the other of said probes hybridizes to a part of the BCR gene on the other side of said chromosomal aberration, wherein said probes hybridize to an aberrant chromosome.

3. (Amended) The composition of claim 2 wherein said probes hybridize within approximately 800 kb of each other in said aberrant chromosome.

5. (Twice Amended) The composition of claim 1 wherein the labels comprise fluorescent labels.

6. (Amended) The composition of claim 5 wherein the fluorescent labels are distinguishable under a microscope as different colors.

8. (Amended) The composition of claim 1 wherein the probes hybridize with chromosomal DNA *in situ* in cells.

9. (Amended) The composition of claim 8 wherein the cells comprise those in interphase of mitotic division.

10. (Amended) The composition of claim 9 wherein the probes after hybridization are juxtaposed as doublets if a chromosomal aberration is present.

11. (Three Times Amended) The composition of claim 1 wherein one of said probes is capable of hybridizing to at least a portion of the last exon of the ABL gene and the other of said probes is capable of hybridizing to at least a portion of exon I of the BCR gene.

12. (Twice Amended) The composition of claim 10 wherein the chromosomal aberration is further defined as comprising a translocation, said translocation formed by breakpoints which occur on the long arms of human chromosomes 9 and 22.

13. (Amended) The composition of claim 12 wherein the translocation breakpoints are further defined as occurring at the locations designated t(9;22) (q11;q34).

14. (Amended) The composition of claim 13 wherein the translocation breakpoints are further defined to occur in the BCR and ABL genes respectively, and a fusion gene is formed by the translocation, and said fusion gene comprises portions of the BCR and ABL genes.

15. (Twice Amended) The composition of claim 14 wherein the fusion gene encodes a protein p190.

16. (Twice Amended) The composition of claim 10 wherein the probes consist of those selected from probes PEM12, c-H-abl and MSB-1.

17. (Amended) The composition of claim 8 wherein the cells comprise a sample of human tissue.

18. (Amended) The composition of claim 17 wherein the human tissue sample comprises peripheral blood.

19. (Amended) The composition of claim 17 wherein the human tissue sample comprises bone marrow.

20. (Amended) The composition of claim 8 wherein the cells comprise a sample of cultured cells.

21. (Amended) The composition of claim 1 wherein one of said probes is capable of hybridizing to the major breakpoint cluster region (M-bcr) of chromosome 22.

22. (Twice Amended) The composition of claim 1 wherein one of said probes is capable of hybridizing to the first exon of the BCR gene.

23. (Twice Amended) The composition of claim 1 wherein one of said probes is capable of hybridizing to at least a part of the last exon of the ABL gene.

24. (Twice Amended) A genetic probe comprising PEM12.

25. (Twice Amended) A genetic probe comprising MSB-1.

26. (Twice Amended) A genetic probe comprising c-H-abl.

27. (Twice Amended) The composition of claim 1 wherein said probes comprise c-H-abl and MSB-1.

28. (Amended) The composition of claim 1 wherein said comprise c-H-abl and PEM12.

29. (Twice Amended) A kit for the detection of chromosomal aberrations comprising at least two genetic probes selected from claims 24, 25 and 26, each in separate containers.

30. (Amended) A kit for the detection of cancer in human cells, comprising:

a) a carrier being compartmentalized to hold multiple containers;

b) a first pair of containers including the pair of genetic probes of claims 24 and 26; and

c) a second pair of containers containing the pair of genetic probes of claims 25 and 26.

31. (Amended) The composition of claim 14 wherein the fusion gene encodes either of two proteins p190 and p210.

32. (Amended) The composition of claim 31 wherein the presence of said fusion gene is diagnostic or prognostic for acute lymphocytic leukemia (ALL).

33. (Amended) The composition of claim 31 wherein the presence of said fusion gene is diagnostic or prognostic for chronic myelogenous leukemia (CML).

34. (Amended) A kit for the detection of chromosomal aberrations, comprising a first and second nucleic acid probe, each labeled with a distinguishable label, said first probe capable of

specifically hybridizing to a part of the ABL gene on one side of said chromosomal aberration and said second probe capable of specifically hybridizing to a part of the BCR gene on the other side of said chromosomal aberration, wherein said probes hybridize to an aberrant chromosome.

35. The composition of claim 1 wherein the aberrant chromosome is the Philadelphia chromosome.